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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,342	09/22/2003	Robert J. Saccomanno	H0004415-1246	8386

7590 01/31/2005  
Kurt A. Luther  
Honeywell International, Inc.  
101 Columbia Road, Law DEpt. AB2  
Morristown, NJ 07962

EXAMINER

CRUZ, MAGDA

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Applicati n No.

10/666,342

Applicant(s)

SACCOMANNO ET AL.

Examiner

Magda Cruz

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.  
 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.  
 7) ☒ Claim(s) 1-26 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

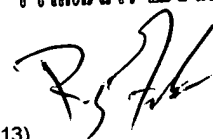
- 9) ☒ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**RODNEY FULLER**  
**PRIMARY EXAMINER**


**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 6/29/2004.

- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 06/29/2004 has been considered by the examiner.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "a diffuser, comprised of a material substantially devoid of regular geometric objects" (claim 1), "a Fresnel-reflection reduction means" (claims 12), "the Fresnel-reflection reduction means comprises a Motheye or an equivalent nanostructure" (claim 14) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to

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show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because Figures 15-17 and 20 are unclear, i.e. the data is illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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4. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

### ***Specification***

5. The disclosure is objected to because of the following informalities: there is no disclosure of "an image system comprising the viewing screen... wherein the speckle contrast is less than 6" (claims 18 and 26).

Appropriate correction is required.

### ***Claim Objections***

6. Claims 1-26 are objected to because of the following:

- a. Claim 1 failed to have a period at the end of the sentence.
- b. Regarding claim 19, the applicant should use consistent terminology, i.e. "polarization sense A" or "polarization state A", and "substrate D" or "D". The applicant is respectfully requested to clarify said terms.
- c. Claims 2-18 and 20-26 fall with parent claim.

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Appropriate correction is required.

***Allowable Subject Matter***

7. The following is a statement of reasons for the indication of allowable subject matter:

A diffuser, comprised of a material substantially, devoid of regular geometric objects, distributed therein having an average size that is greater than a wavelength of said information-coded-light and having geometrical concavity open to at least a portion of said viewing zone, wherein said diffuser exhibits a polarization-preserving discrimination ratio of at least 2:1 throughout said viewing zone (claim 1) and a low-scatter polarization-preserving multilayer viewing screen for increasing the divergence of information coded light, comprising a substrate for increasing the divergence of information-coded-light, while preserving its polarization sense, as it passes therethrough with a discrimination of at least 2:1 within a viewing zone (claim 19), cannot be made inherent or obvious by the prior art of record.

***Conclusion***

8. This application is in condition for allowance except for the following formal matters:

d. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "a diffuser, comprised of a material substantially, devoid of regular geometric objects" (claim 1), "a Fresnel-reflection reduction

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means" (claims 12), "the Fresnel-reflection reduction means comprises a Motheye or an equivalent nanostructure" (claim 14) as described in the specification.

e. The drawings are objected to because Figures 15-17 and 20 are unclear, i.e. the data is illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action.

f. The disclosure is objected to because of the following informalities: there is no disclosure of "an image system comprising the viewing screen... wherein the speckle contrast is less than 6" (claims 18 and 26).

g. Claim1 is objected to because of the following informality: there is no period at the end of claim.

h. Claim 19 is objected to because of the following informalities: the applicant should use consistent terminology, i.e. "polarization sense A" or "polarization state A", and "substrate D" or "D".

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cupolo, III (US Patent Number 5,666,174) discloses an emissive liquid crystal display having a backlight and a liquid crystal cell for modulating the light.

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Larson (US Patent Number 5,751,388) teaches an image display apparatus which employs a polarization-sensitive scattering element.

Yamaguchi (US Patent Number 6,527,410 B2) shows an illuminating device and liquid-crystal display device apparatus.

Sahouani et al. (US Patent Number 6,768,586 B2) discloses polarizer constructions and display devices exhibiting unique color effects.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magda Cruz  
Patent Examiner  
January 26, 2005

RODNEY FULLER  
PRIMARY EXAMINER

